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MEMORANDUM

To: The Design Advisory Board
From: Mary O'Neil, AICP, Principal Planner
RE: ZP21-0583CA, 52 Institute Road (BHS)
Date: January 12, 2021

File: 21-0583CA

Location: 52 Institute Road

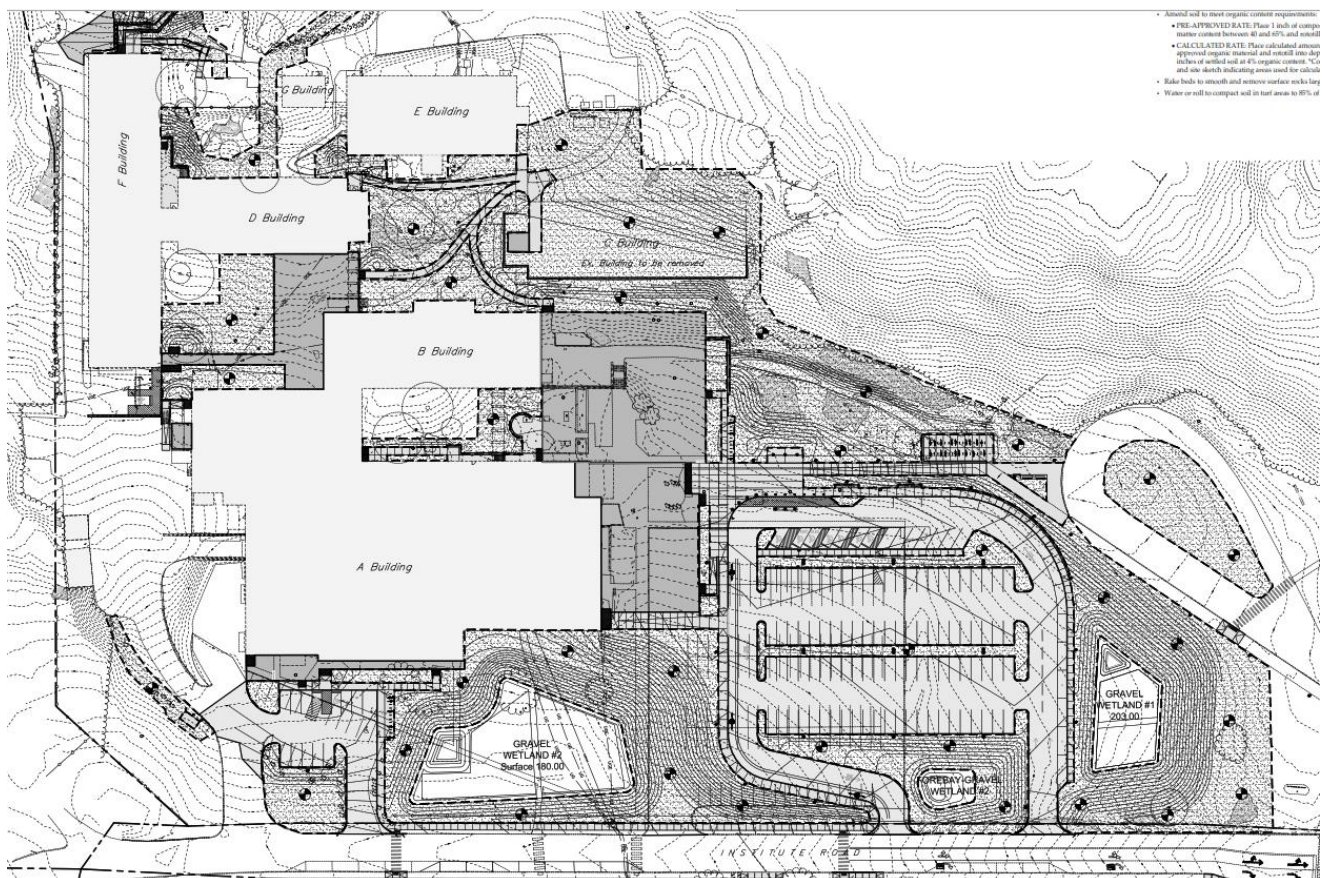
Zone: RCO-RG **Ward:** 4N

Parking District: Neighborhood

Date application accepted: December 23, 2020

Applicant/ Owner: Black River Design / Burlington School District

Request: Expansion and renovation of Burlington High School and Burlington Technical Center.



Burlington School District embarked on this project to address existing deficiencies including failure to meet current accessibility standards, deteriorating infrastructure, outdated plumbing, electrical heating and ventilation systems, and the school's "1960" era classrooms.



View from North Avenue

Three additions will be constructed to consolidate programs, improve accessibility and circulation, and enhance security.

The main addition is a three story structure at the main entrance to house administrative and support functions, provide a new secure entrance vestibule, replace the C Building classrooms, and provide for a modernized library more conveniently located for both student and public access. An auxiliary gym to be located near the main building entrance remains an option but is budget dependent. This application seeks approval for both the auxiliary gym and a greenhouse to be located on the existing C Building footprint.

A second three story addition will connect Buildings A, B, D, and F Buildings near the BHS cafeteria and house an elevator, the Intensive Special Needs (ISN) suite and multiple Science labs. It will provide a new direct connection between BHS and Burlington Technical Center (BTC).

A third addition is located south of the existing gymnasium and provides for a new four story elevator and egress stair connecting all four levels of A Building and an interior accessible route to the music rooms located at the ground level. The On Top program will continue to be located on the fourth floor of A Building.

Aging infrastructure will be replaced to decrease maintenance costs and improve energy efficiency. Primary upgrades to Buildings A, B and D include:

- Addition of automatic sprinkler system
- New addressable fire alarm system throughout
- New interior plumbing; piping and fixtures
- New LED lighting and low voltage controls
- Addition of cooling throughout
- New heating and ventilation throughout
- New interior finishes
- New operable windows
- New roofs

The scope of work for F Building (BTC) will be limited to ADA and Building Code required improvements.

Infrastructure and site circulation improvements will include:

- Regraded parking lot to improve accessibility and traffic flow
- Stormwater treatment to meet State and City Regulations
- Relocated electrical service with provisions to connect a portable generator for emergency power
- Improve traffic circulation routes able to support fire department vehicle access
- New underground utility (sewer, water, power, gas, and stormwater infrastructure)
- Additional ADA parking distributed across the site
- Additional and conveniently located bicycle parking
- Electric Vehicle charging stations

Building C is proposed to be demolished. Building E (24,870 sf gross area) will remain on site to be used for possible future BSD programming. No renovations are planned.

The project will address pre-existing asbestos, urban soils, and PCB contamination. No change is proposed to school population, staffing or event functions outside the normal year to year fluctuation. As a result, no increased impacts are forecast for trip ends, water supply and wastewater disposal.

Background:

- ✚ **Zoning Review 20-0194SP**; Sketch Plan review for renovations to BHS. September 1, 2020.
- ✚ **Zoning Permit 15-0982CA**; addition of storage shed. April 2015.
- ✚ **Zoning Permit 13-0291CA**; installation of rooftop condensing units on Buildings A and B. June 2013.
- ✚ **Zoning Permit 13-1037CA**; replace existing HVAC system with new heat pump system and condenser on roof of Building A. May 2013.
- ✚ **Zoning Permit 13-0053CA**; install new shed in north east portion of property. July 2012.
- ✚ **Non-Applicability of Zoning Permit Requirements 12-0558NA**; installation of photovoltaic system, Certificate of Public Good. November 2011.
- ✚ **Zoning Permit 11-1123CA**; install condensing unit on the side of F building at BHS. July 2011.
- ✚ **Zoning Permit 10-0850CA**; two new Energy Recovery Units on roof of A Building at Burlington High School. June 2010.
- ✚ **Zoning Permit 09-616CA**; Renovations to existing press box including new membrane roof covering, roof access hatch, ladder, and safety rail. March 2009.

- ✚ **Zoning Permit 09-321SN**; Electronic sign to be added to previously approved sign. October 2008.
- ✚ **Zoning Permit 09-241CA**; Relocate solar array from building side to flat roof of building with new rack mounting structure. September 2008.
- ✚ **Zoning Permit 09-137SN**; freestanding sign for Burlington High School. August 2008.
- ✚ **Zoning Permit 08-549SN**; one freestanding, internally lit, metal sign for Burlington High School. Application **denied**, February 2008.
- ✚ **Zoning Permit 06-457CA**; construction of 3,200 square foot building to house wood chip boiler system for existing high school. March 2006.
- ✚ **Zoning Permit 06-452CA**; redevelopment of high school athletic fields, parking, new service and entrance buildings and new sewage pump station. February 2006.
- ✚ **Zoning Permit 05-305CCA**; amended plan for building-mounted solar panels at BHS. Reduction from six panels to four. Child of permit 05-058CA. November 2004.
- ✚ **Zoning Permit 05-058CA**; Install 6 solar panels attaching to a pole located approximately 35 ft. off the SE corner of building A. July 2004.
- ✚ **Zoning Permit 04-723CA**; Remove old green house. Enclose with walls, new roof and windows. July 2004.
- ✚ **Zoning Permit 00-028**; Installation of two metal halide flood lights on existing poles to illuminate the existing press box for the high school athletic field. July 1999.
- ✚ **Zoning Permit 99-186**; Amend previously approved bleacher system at the Burlington High School track to include a press box. October 1998.
- ✚ **Zoning Permit 98-305**; Replace existing steel and wood bleachers with new on the east and west sides of the Burlington High School track. Proposal includes installation of a slab on the east side (Portable units on the west). January 1998.
- ✚ **Zoning Permit 98-074**; Installation of a handicapped access ramp on the front of the existing Burlington high school. Materials to be painted metal (Dark green and concrete). August 1997.
- ✚ **Zoning Permit 97-033**; Add nonilluminated message board section under the existing freestanding sign for Burlington High School. Location on North Avenue and height and overall size to remain the same. July 1996.
- ✚ **Zoning Permit 87-678 / COA 87-215**; building three bay one-story garage for storage of aircraft parts for school program. January 1988.
- ✚ **Zoning Permit 87-320**; change an existing window on west side to exterior door to provide gress to new classroom. June 1987.
- ✚ **Zoning Permit 82-435**; construct bus shelter on the site of a removed bus shelter. September 1982.

Overview:

Burlington School District proposes to reconfigure and modernize Burlington High School. Three additions are proposed to consolidate programs, improve accessibility, and enhance security. A fourth addition, for an auxiliary gymnasium, remains in the plan as budget allows.

In November 2018, voters approved a bond to complete the project, entitled “Revisioning BHS/BTC”. Sketch Plan Review was delayed while design modification occurred post preliminary bids. More information and updates can be viewed [here](#).

The project development is subject to limited municipal review per **VSA §4413**:

Limitations on municipal bylaws

- (a) The following uses may be regulated only with respect to **location, size, height, building bulk, yards, courts, setbacks, density of buildings, off-street parking, loading facilities, traffic, noise, lighting, landscaping, and screening requirements**, and only to the extent that regulations do not have the effect of interfering with the intended function use:*
- (1) **State or community owned and operated institutions and facilities.***
 - (2) **Public and private schools and other educational institutions certified by the state department of education.***
 - (4) **Public and private hospitals.***

Part 1: Land Division Design Standards

No land division is proposed. Not applicable.

Part 2: Site Plan Design Standards

Sec. 6.2.2 Review Standards

(a)Protection of Important Natural Features:

A study was commissioned of Gilman and Briggs Environmental Consultants (p. 72-80 overall application). This analysis included a list of identified plant and tree species, with mapping to indicate both rare and endangered species. The ultimate examination resulted in a determination of no impact relative to the area of construction, a recommendation to limit tree clearing, and a return to a vegetative state within the outline of Building C. The Conservation Board reviewed the plan and study at their January 4, 2021 meeting, and found the natural resources assessment adequate. An official for Burlington School District has also added that the study anticipates greater impacts that are actually proposed, due to revisions to Building C.

Enhanced landscaping and tree removal is outlined in plan L100.

(b) Topographical Alterations:

Regrading is proposed at the location of the easterly parking lot (to facilitate accessibility) and at the site of Building C to facilitate a seating area and greenhouse. See Plan L103.

Overall, the introduction of stormwater features (gravel wetlands) will result in site modifications.

(c) Protection of Important Public Views:

There are no protected views from or through this site. Not applicable.

(d) Protection of Important Cultural Resources:

Not applicable.

(e) Supporting the Use of Renewable Energy Resources:

The redevelopment plan includes entirely new infrastructure, including:

- New LED lighting with low voltage controls;
- Addition of cooling throughout the complex;
- New heating and ventilation systems
- Electric Vehicle charging stations

There is existing solar on the multiple rooftops. The project has been subject to design challenge in order to qualify for certification under CHPS; *Collaborative High Performance School Standards*. When complete, BHS will be the first school in Vermont to achieve this certification. Similar to LEED, it specifically adopts additional standards particular to educational facilities, one of them acoustics.

No part of this application precludes the use of wind, water, solar, geothermal, or other renewable energy resources.

(f) Brownfield Sites:

The site is not listed on the Vermont DEC list of identified Brownfields. Recent site analysis has determined the presence of site contamination, which will be addressed within this project. See narrative, p. 2.

(g) Provide for nature's events:

Special attention shall be accorded to stormwater runoff so that neighboring properties and/or the public stormwater drainage system are not adversely affected. All development and site disturbance shall follow applicable city and state erosion and stormwater management guidelines in accordance with the requirements of Art 5, Sec 5.5.3.

Design features which address the effects of rain, snow, and ice at building entrances, and to provisions for snow and ice removal or storage from circulation areas shall also be incorporated.

The narrative defines the introduction of Stormwater Treatment to meet all City and State regulations. The project will be required to satisfy all Chapter 26 requirements, with written approval of the City Stormwater program. Gravel wetlands will be introduced as part of the Stormwater mitigation measures.

Design features which address the effects of rain, snow, and ice at building entrances, and to provisions for snow and ice removal or storage from circulation areas shall also be incorporated.

Improvements to building entrances will assure enhanced shelter for students and staff. Burlington School District maintains an active snow removal program for all their facilities.

(h) Building Location and Orientation:

The building will continue to front Institute Road, with additions to the east, north and at a southerly entrance. Redevelopment will continue to emphasize and enhance the existing orientation to the street.

(i) Vehicular Access:

Normal access will continue as existing off Institute Road, while the GMT bus loop off North Avenue will remain undisturbed. Modifications will be made to parking access to the south lot, and improvements to the circulation pattern on the north. See Civil drawing C1.0.

(j) Pedestrian Access:

Much greater circulation will be afforded with the plan, with the addition of interconnected pedestrian paths from the east/drop off access point; around the south to the newly designed accessible entry. A network of paths are proposed across the site, between differing building volumes and to the proposed greenhouse.

(k) Accessibility for the Handicapped:

A principal goal of this renovation is to achieve access throughout the complex and across the campus. The three story addition will connect A, B, D and F Buildings near the BHS cafeteria and house an elevator, providing a direct link between BHS and BTC. Another addition on the south of the existing gymnasium will provide a new four story elevator and egress stair connecting all four levels of A Building with an interior accessible route to the music rooms located on the ground level. Regrading the northerly parking lot will also improve access standards, as well as improved pedestrian paths throughout the site. HCParking is provided in all lots.

(l) Parking and Circulation:

Reference is made to Plan L100 ALT, which includes the attached parking table.

The Existing North Parking Lot (ENL) will be completely reconfigured to improve accessibility and traffic flow. This existing North Lot has 122 parking spaces and a curb side aisle used as approximately 30 temporary pickup and dropoff spaces. The proposed upper parking lot will include 7 accessible spaces, 92 designated staff parking spaces and 22 short term drop-off spaces. The lower parking lot will have a total of 12 spaces (see table, right.) The layout of the north lot will operate much as the existing lot. Buses will remain on a separate loop directly off North Avenue. The one-way pattern of circulation through the lot will remain.

PARKING CALCULATIONS		
	EXISTING SITE (TOTAL)	PROPOSED PLAN (TOTAL)
UPPER PARKING LOT (STAFF / VISITOR)	122	121
ADA-Accessible Spaces	4	7
Designated Staff Parking Spaces (DS)	103	92
Visitor / Short-Term Dropoff Spaces (V)	15	22
LOWER PARKING LOT (STAFF)	18	12
ADA-Accessible Designated Staff Parking Space	2	1
ADA-Accessible Designated Dropoff Space (On Top)	0	1*
Designated Staff Parking Spaces (DS)	16	11
SOUTH PARKING LOTS (STUDENT)	144	143
ADA-Accessible Spaces	0	2
Student Parking Spaces	144	141
NORTH-REAR PARKING (STAFF / VISITOR)	46	48
F-Bldg North ADA-Accessible Designated Space (DS)	0	1
F-Bldg North ADA-Accessible Dropoff Space (Daycare)	0	1*
F-Bldg North Visitor / Dropoff Spaces (V)	4	4
F-Bldg South ADA-Accessible Dropoff Spaces (ISN)	0	1*
Designated Staff Parking Spaces (DS)	22	23
Maintenance Spaces (M)	20	20
PARKING TOTALS	330	324
(NET COUNT)		-6
* designated dropoffs not included in parking counts		
ON-STREET PARKING (Institute Road)	11	10

Both the entrance and exit drives off Institute Road will be shifted to the east.

With no change in traffic volumes, only the queue development is anticipated to change. RLG models provided for Sketch Plan review are based on the 10-15 minute congestion period at the close of school; otherwise, traffic volumes are lower and congestion is not anticipated to be a problem.

The forecasted decrease in parking spaces (-6) and discussion of required parking is addressed in an overall parking management plan. See p. 68-71 in overall submission packet.

(m) Landscaping and Fences:



Wagner Hodgson provided an illustrative site plan (L000) depicting the buildout on the site. With improve parking areas, defined pedestrian circulation paths, enhanced Stormwater features and landscape amenities like wider paths, benches, and bike racks the campus will enjoy renewed green space and functional circulation throughout the site.

See plans L001-L202.

(n) Public Plazas and Open Space:

There are several areas of existing and proposed gathering space; the enhanced entry courtyard on the east, the improved central access entry on the south, the courtyard (including an area within the partial foundation of Building C, as well as the bicycle corrals and wide paths. Enhanced landscaping surround the walkways and at the site of Building C will provide comfortable and attractive areas to gather.

(o) Outdoor Lighting:

Where exterior lighting is proposed the applicant shall meet the lighting performance standards as per Sec 5.5.2.

New LED lighting is proposed throughout. Reference is made to fixture and illumination plans p. 99-131 (there are duplicate plan sets) and Plan L400 ALT for illumination levels. Information is lacking for max/min ratio, and reporting on max. footcandle measurements for the parking lot and walkways. A request has been made to the applicant for this information.

(p) Integrate infrastructure into the design:

Exterior storage areas, machinery and equipment installations, service and loading areas, utility meters and structures, mailboxes, and similar accessory structures shall utilize setbacks, plantings, enclosures and other mitigation or screening methods to minimize their auditory and visual impact on the public street and neighboring properties to the extent practicable.

Utility and service enclosures and screening shall be coordinated with the design of the principal building, and should be grouped in a service court away from public view. On-site utilities shall be placed underground whenever practicable. Trash and recycling bins and dumpsters shall be located, within preferably, or behind buildings, enclosed on all four (4) sides to prevent blowing trash, and screened from public view.

Any development involving the installation of machinery or equipment which emits heat, vapor, fumes, vibration, or noise shall minimize, insofar as practicable, any adverse impact on neighboring properties and the environment pursuant to the requirements of Article 5, Part 4 Performance Standards.

This very ambitious and comprehensive application intends to increase energy efficiency, improve accessibility, enhance security, and consolidate programming. New underground utility (sewer water power and stormwater infrastructure) is included.

Part 3: Architectural Design Standards
Sec. 6.3.2 Review Standards

State Statute §4413 Limits Municipal Review per the following:

§ 4413. Limitations on municipal bylaws

*(a) The following uses may be regulated only with respect to **location, size, height, building bulk, yards, courts, setbacks, density of buildings, off-street parking, loading facilities, traffic, noise, lighting, landscaping, and screening requirements**, and only to the extent that regulations do not have the effect of interfering with the intended functional use:*

(1) State- or community-owned and operated institutions and facilities.

*(2) **Public and private schools and other educational institutions certified by the state department of education.***

(3) Churches and other places of worship, convents, and parish houses.

(4) Public and private hospitals.

(5) Regional solid waste management facilities certified under 10 V.S.A. chapter 159.

(6) Hazardous waste management facilities for which a notice of intent to construct has been received under 10 V.S.A. § 6606a.

(a) Relate development to its environment:

1. Massing, Height and Scale:

The proposed additions are similar in scale, massing and height to the existing building(s) on site.

2. Roofs and Rooflines.

Not applicable per § 4413. *Limitations on municipal bylaws.*

3. Building Openings

Not applicable per § 4413. *Limitations on municipal bylaws.*

(b) Protection of Important Architectural Resources:

Not applicable.

(c) Protection of Important Public Views:

Not applicable.

(d) Provide an active and inviting street edge:

Not applicable per § 4413. *Limitations on municipal bylaws.*

(e) Quality of materials:

Not applicable per § 4413. *Limitations on municipal bylaws.*

(f) Reduce energy utilization:

A large part of this redevelopment is to improve energy efficiency. Energy modeling information was provided in Sketchplan review. Burlington School District is attempting to qualify for certification under CHPS; *Collaborative High Performance School Standards*. When complete, BHS will be the first school in Vermont to achieve this certification. Similar to LEED, it specifically adopts additional standards particular to educational facilities.

(g) Make advertising features complementary to the site:

Not applicable.

(h) Integrate infrastructure into the building design:

Not applicable per § 4413. *Limitations on municipal bylaws.*

(i) Make spaces secure and safe:

Improved staff and student safety is core to the project. The addition of automatic sprinkler system throughout the complex, a new addressable fire alarm system, new lighting, ventilation, and improved traffic circulation and parking are all identified as safety improvements. Additionally, circulation to allow emergency vehicle access as well as first responder entrances with a stretcher-sized elevator will significantly advance site safety.

Recommended motion: Recommend approval with additional information about lighting levels, and forward to the Development Review Board.